

**MARY C. WHITTON**

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**University of North Carolina at Chapel Hill**  
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**EDUCATION**

**M.S. Electrical and Computer Engineering (1984)**

North Carolina State University, Raleigh, NC

Thesis Title: Special Purpose Hardware for the Display of Free-Form Surfaces

**M.S. Guidance and Personnel Services (1974)**

North Carolina State University, Raleigh, NC

Thesis Title: Same-Sex and Cross-Sex Reliability and Concurrent Validity of the  
Strong-Campbell Interest Inventory

**B. A. Religion (1970)**

Duke University, Durham, NC

**CONTINUING EDUCATION**

**Managing at Sun**, 1991, In-house program at Sun Microsystems, Inc.; 40 hours

**Program for Technology Managers**, 1985, UNC-CH Kenan-Flagler Business School; 100 hours

**Product Planning and Management**, 1982, McGraw-Hill Seminar Center; 24 hours

**EMPLOYMENT**

**Department of Computer Science, University of North Carolina at Chapel Hill**

Research Associate Professor, July 2004 – present

Research Assistant Professor, May 1995 – July 2004

Manager of Virtual Environments Research Projects, November 1994-May 1995

**Renaissance Computing Institute (RENCI)**

Chief Domain Scientist, Computer Science (25% FTE), August 2008 – September 2009

**Sun Microsystems, Inc.** (Sun acquired Trancept Systems, Inc. May 1987)

Sun Microsystems Laboratories, July 1993 – October 1994

Director of Marketing, Advanced Visualization Products, June 1987 – July 1993

**Trancept Systems, Inc.**

Vice President Sales and Marketing and Co-Founder, January 1986 – May 1987

**Adage, Inc.** (Adage acquired Ikonas, October 1982)

Director of Marketing—Graphics Terminals, October 1982 – August 1986

(Academic Leave June 1993 – December 1984)

**Ikonas Graphics Systems, Inc.**

Vice President and Co-Founder, July 1978 – October 1982

**N.C. Public Schools, Middle School Mathematics Teacher** 1973-1976

**RESEARCH INTERESTS**

**Effective Virtual Environments (EVE) Research Team (with Fred Brooks)**

- What makes virtual environments work? How do technical factors influence their effectiveness?
  - Showing that VEs are worthwhile, especially for scientific visualization and training.
  - Exploiting principles of perception, e.g., visual dominance, to improve VE systems
- Tools for Serious Games and VE Applications: Application to Physical Therapy
  - Improving scenario/rehabilitation session generation tools for physical therapists
  - Using logs from training systems (and games) to evaluate trainee/player performance?

## **PUBLICATIONS**

Author or co-author of over 50 publications including: 9 book chapters and 29 reviewed papers. [Full list](#) is included at the end of this document.

## **FUNDING**

2000-2008	ONR VIRTE Project	\$1,480,000
	Topic: Effective Virtual Environments	Fred Brooks and Mary Whitton Co-PIs

1998-2002	Supplement to NIH NCRR GRIP/CISMM	~\$450,000/year
	Topic: Design, Develop, Deploy, and Evaluate a System for Distributed Collaboration	
	Supplement PIs: R. Superfine and R. Taylor	Project Leads: Mary Whitton and Diane Sonnenwald

## **GRADUATE STUDENT COMMITTEES**

**Co-Advisor with Fred Brooks:** 6 graduated (Insko, Meehan, Lok, Zimmons, Razzaque, Burns); 4 ongoing: J. Feasel, J. Jerald (Dec. 2009), T. Peck (co-advisor with Fuchs), R. Skarbez

**Other PhD Committees:** 10 graduated (Interrante, Leubke, Erickson, Arthur, Bokinsky, Rademacher, Hudson, Weigle, Allen, Hensley, Miller; Maglaughlin (SILS)); 4 ongoing: J. Wendt, L. Kohli, K. Gyllstrom (Dec. 2009), and D. Feng.

Note: I was a Reader for all completed dissertations except Interrante, Leubke, and Gyllstrom

**Integrative Paper Committees:** McLaurin, Naik, Razzaque, Jerald, Burns, Oates, Richardson

## **SELECTED DEPARTMENT AND PROFESSIONAL SOCIETY SERVICE**

**Chair, Computer Science Department Local IRB Committee** (2002-present)

**Chair of UNC Research Exhibits at SIGGRAPH 1997, 2002**

400 and 800 square feet, respectively, for 1997 (proposed by Lastra) and 2002 (invited). Over 25 students and faculty involved each year and each was open to attendees for over 40 hours. User study conducted in 2002 resulted in IEEE VR publication (Meehan, et al. 2003).

**ACM Professional Society:** Member since 1978.

Member SIG Board (1993-1997), Member ACM Council (1998-2000);

**ACM SIGGRAPH:** President (1993-1995), Executive Committee (1990-1999), Chair *ACM SIGGRAPH in the 20<sup>th</sup> Century* Long Range Planning Conference (1994); General Chair of Symposium on Interactive 3D Graphics (2001); frequent reviewer for SIGGRAPH, Symposium on Interactive 3D Graphics, and Applied Perception in Graphics and Visualization, *Transactions on Applied Perception*.

**IEEE and IEEE Computer Society:** Member since 1980, Senior Member 2009

Frequent reviewer and program committee member for IEEE Virtual Reality, IEEE Workshop on 3D User Interfaces. Reviewer for *Transactions on Visualization and Computer Graphics*.

**Other reviewing:** *Presence, Computers and Graphics, International Journal of Virtual Reality, ACM CHI conference.*

## **AWARDS AND HONORS**

1998	Inclusion in "Computer Graphics Pioneers" Portrait Gallery, SIGGRAPH 98
1983	Wake County (NC) Businesswoman of the Year, American Business Women's Association
1978	Tau Beta Pi Engineering Honor Society
1971-1973	National Defense Education Act Fellowship, N. C. State University
1966-1970	Angier B. Duke Scholarship, Duke University

## PUBLICATIONS

Mary C. Whitton

### **PUBLICATIONS: BOOK CHAPTERS**

#### **2008**

- Whitton, M.C. and Brooks, F.P. (2008). Evaluating VE Component Technologies. In *The PSI Handbook of Virtual Environments for Training and Education: Vol.2. VE Components and Training Technologies*, Schmorow, Cohn, J., and Nicholson, D., (Series Eds), Nicholson, D., Schmorow, D. and Cohn, J. (Vol. Eds.), (pp 240-261). Westport, CN: Praeger Security International.
- Whitton, M.C. and Loftin, R..B (2008). Section Perspective: VE Component Technologies. In *The PSI Handbook of Virtual Environments for Training and Education: Vol.2. VE Components and Training Technologies*, Schmorow, Cohn, J., and Nicholson, D., (Series Eds), Nicholson, D., Schmorow, D. and Cohn, J. (Vol. Eds.), (pp.1-14). Westport, CN: Praeger Security International.
- Whitton, M.C. and Wendt, J., (2008). Section Perspective Appendix A: Modeling and Rendering. In *The PSI Handbook of Virtual Environments for Training and Education: Vol.2. VE Components and Training Technologies*, Schmorow, Cohn, J., and Nicholson, D., (Series Eds), Nicholson, D., Schmorow, D. and Cohn, J. (Vol. Eds.), (pp. 15-20). Westport, CN: Praeger Security International.
- Sonnenwald, D.H., Whitton, M.C. & Magluaghlin, K. (2008). Evaluation of a scientific collaboratory system: Investigating a collaboratory's potential before deployment. In *Scientific Collaboration on the Internet*, G. Olson, A. Zimmerman & N. Bos (Eds.), (pp.171-194). Boston: MIT Press.
- Whitton, M.C. & Razzaque, S. (2008a). Locomotion. In *HCI Beyond the GUI: Design for Haptic, Speech, Olfactory and Other Nontraditional Interfaces*, Kortum, P. (Ed.), (pp 107-146). Burlington, MA: Morgan Kaufmann.
- Whitton, M., & Razzaque, S. (2008b). Locomotion Interfaces Case Study. (Companion Case Study to Whitton & Razzaque 2008a). In Web supplement to *HCI Beyond the GUI: Design for Haptic, Speech, Olfactory and Other Nontraditional Interfaces*, Kortum, , P. (Ed.), Retrieved February 13, 2009, from [http://books.elsevier.com/companions/9780123740175/casestudies/Case\\_Study\\_04.pdf](http://books.elsevier.com/companions/9780123740175/casestudies/Case_Study_04.pdf)

#### **Before 2008**

- Taylor II, R. M., D. Borland, F. P. Brooks, Jr., M. Falvo, M. Guthold, T. Hudson, K. Jeffay, G. Jones, D. Marshburn, S. J. Papadakis, L. C. Qin, A. Seeger, F. D. Smith, D. H. Sonnenwald, R. Superfine, S. Washburn, C. Weigle, M. C. Whitton, P. Williams, L. Vicci and W. Robinett (2003). Visualization and Natural Control Systems for Microscopy. In *Visualization Handbook*, C. Johnson, C. Hansen (Ed.s), (pp. 875-900). Boston:Elsevier-Butterworth Heinemann.
- Sonnenwald, Diane, R. Berquist, K. Maglaughlin, E. Kupstas Soo, M. Whitton (2001). Designing to Support Scientific Research Across Distances: the nanoManipulator Environment. In *Collaborative Virtual Environments*, E. Churchill, D. Snowden, and A. Munro (Ed.s), (pp. 202-224). London: Springer Verlag,
- Whitton, Mary C. (1990). Requirements for Scientific Visualization: Evolution of an Accelerator Architecture. In *Visualization in Supercomputing*, Mendez, Raul (Ed.), (pp.117-129). New York: Springer-Verlag.
- Whitton, Mary C. (1988). Memory Design for Raster Graphics Displays. In *IEEE Tutorial: Computer Graphics Hardware, Image Generation, and Display*, Reghbat, H. and Lee, A. (Ed.s) IEEE Computer Society Press, 1988, (pp. 116-133). (Originally published in *IEEE Computer Graphics and Applications*, 4(3) (March 1984), 48-65.)

### **PUBLICATIONS: PAPERS IN JOURNALS AND SIGNIFICANT CONFERENCES**

**Note:** The conference papers included here were reviewed by at least three reviewers and acceptance rates range from under 20% to 30%. The papers were presented at the conference and full text is included in the conference proceedings.

**2009**

- Jerald, J., M. Whitton (2009). Relating Scene-Motion Thresholds to Latency Thresholds for Head-Mounted Displays. *Proceedings of IEEE Virtual Reality 2009* (Lafayette, LO March 2009), pp. 211-218.
- Jerald, J., F. Steinicke, and M. Whitton (2009). Scene-motion thresholds correlate with angular head motions for immersive virtual environments. In *Proceedings of Advances in Computer-Human Interaction*, pages 69–75, 2009. IEEE:New York. This paper received an award as one of the top 10% of papers at the conference.
- Peck, T., H. Fuchs, M. Whitton (2009). Evaluation of Reorientation Techniques for Walking in Large Virtual Environments. *Transactions on Visualization and Computer Graphics* 15(3) pp.383-394. Washington:IEEE Press.

**In review**

- Peck, T., Fuchs, H., & Whitton, M. C. (in review-October 2009). Improved Redirection with Distractors: A Large Scale Real Walking Locomotion System and its Effect on Navigation in Virtual Environments.
- Wendt, J., Whitton, M. C., & Brooks, F. B. (in review--October 2009). GUD WIP: Gait-Understanding-Driven Walking-In-Place.

**In preparation**

- Feasel, J., Whitton, M., Kassler, L., Brooks, F., & Lewek, M. (in preparation). A user-behavior-driven control system for an instrumented, dual-belt treadmill.
- Jerald, J., Peck, T. M., Steinicke, F., & Whitton, M. C. (in preparation). Sensitivity to scene motion across phases of head turn, head motions, and scene illuminance.
- Jerald, J., & Whitton, M. (In preparation). Relating scene motion thresholds to latency thresholds for head-mounted displays.
- Kassler, L., Feasel, J., Lewek, M., Brooks, F. P., & Whitton, M. (in preparation). Determining the multiplier needed to match actual treadmill walking speed with perceived walking speed in associated virtual environment.

**2008**

- Feasel, J., M.C.Whitton, J.D. Wendt, (2008). LLCM-WIP: Low-Latency, Continuous-Motion Walking-in-Place. *Proceedings of IEEE Symposium on 3D User Interfaces 2008*(Reno, NV March 2008), 97-104.
- Jerald, J., Peck, T., Steinicke, F., Whitton, M. (2008). Sensitivity to Scene Motion for Phases of Head Yaws. *Proceedings of Applied Perception in Graphics and Visualization 2008* (Los Angeles, August 2008) , pp. 155-132,. ACM.
- Mihalik JP, Whitton MC, & Kohli L, (2008). Do the physical characteristics of a virtual reality device contraindicate its use for balance assessment? *Journal of Sport Rehabilitation*, 2008, 16(38-49).
- Peck, Tabitha, M. Whitton, H. Fuchs (2008). Evaluation of Reorientation Techniques for Walking in Large Virtual Environments. *Proc. of IEEE Virtual Reality 2008* (Reno, NV March 2008), 121-127. Honorable Mention in Best Paper competition.

**2007**

- Burns, Eric, Sharif Razzaque, Mary C. Whitton, Frederick P. Brooks, Jr., (2007) MACBETH: Management of Avatar Conflict by Employment of a Technique Hybrid. *International Journal of Virtual Reality*, 6(2):11-20.
- Glencross, M., C. Jay, J. Feasel, L. Kohli, M. Whitton, R. Hubbard (2007). Effective Cooperative Haptic Interaction over the Internet. *Proc. of IEEE Virtual Reality 2007*, (Charlotte, NC Mar 2007), 115-122.

**2006**

- Burns, E., Razzaque, S., Panter, A. T., Whitton, M. C., McCallus, M. R., & Brooks, F. P. (2006) The Hand is Slower than the Eye: A quantitative exploration of visual dominance over proprioception. *Journal on Presence: Teleoperators and Virtual Environments*, 15(1), 1-15, February 2006. (Invited extended version of IEEE VR 2005 conference paper.)

**2005**

- Burns, E., Razzaque, S., Panter, A. T., Whitton, M. C., McCallus, M. R., & Brooks, F. P. (2005) The Hand is Slower than the Eye: A quantitative exploration of visual dominance over proprioception. Proceedings of IEEE Virtual Reality 2005, (Bonn, Germany March 2005), 3-10, IEEE Computer Society. Honorable Mention in Best Paper Competition.
- Whitton, M., Cohn, J., Feasel, J., Zimmons, P., Razzaque, S., Poulton, S., McLeod, B., Brooks, F. (2005). Comparing VE Locomotion Interfaces. Proceedings of IEEE Virtual Reality 2005, (Bonn, Germany March, 2005), 123-130, IEEE Computer Society.
- Meehan, M., S. Razzaque, B. Insko, M. Whitton, F. Brooks (2005). Review of Four Studies on the Use of Physiological Reaction as a Measure of Presence in Stressful Virtual Environments. Applied Psychophysiology and Biofeedback, 30 (3), 239-258.

**2004**

- Hudson, T., A. Helser, D. Sonnenwald, M. Whitton (2004). Managing Collaboration in the nanoManipulator. Journal on Presence: Teleoperators and Virtual Environments, 13(2), 193-210.
- Lok, Benjamin, Samir Naik, Mary Whitton, and Frederick Brooks (2003). Effects of Interaction Modality and Avatar Fidelity on Task Performance and Sense of Presence in Virtual Environments. Journal on Presence: Teleoperators and Virtual Environments, 12(6), 615-628.
- Sonnenwald, Diane H., K. Maglaughlin, M. Whitton (2004). Designing to Support Situation Awareness across Distances: An Example from a Scientific Collaboratory. Information Processing & Management, 40(6), 989-1011

**2003**

- Lok, B.C., S. Naik, M. Whitton, F. Brooks, (2003). Incorporating Dynamic Real Objects into Immersive Virtual Environments. Proceedings of ACM Symposium on Interactive 3D Graphics (Monterey, CA April 2003), 31-40. Selected for short presentation at SIGGRAPH 2003 with one page summary in ACM Transactions on Graphics 22(3), 701 (Proceedings of SIGGRAPH 2003, San Diego).
- Lok, B.C., S. Naik, M. Whitton, F. Brooks (2003), Effects of Handling Real Objects and Self-Avatar Fidelity on Cognitive Task Performance in Virtual Environments. Proceedings of IEEE Virtual Reality 2003 (Los Angeles, CA, March 2003), 125-132, IEEE Computer Society.
- Hudson, T., A. Helser, D. Sonnenwald, M. Whitton, Managing Collaboration in the nanoManipulator (2003). Proceedings of IEEE Virtual Reality 2003 (Los Angeles, CA, March 2003), 180-187, IEEE Computer Society.
- Meehan, M., S. Razzaque, M. Whitton, F. Brooks (2003), Effects of Latency on Presence in Stressful Virtual Environments. Proceedings of IEEE Virtual Reality 2003 (Los Angeles, CA, March 2003), 141-148, IEEE Computer Society.
- Sonnenwald, Diane H., M. Whitton, K. Maglaughlin (2003) Evaluating a Scientific Collaboratory: Results of a Controlled Experiment. ACM Transactions on Computer Human Interaction, 10(2), 151-176.

**2002**

- Sonnenwald, Diane H., Mary Whitton, Kelly Maglaughlin (2002) Scientific Collaboratories: Evaluating their Potential. Bulletin of the American Society for Information Science & Technology, Aug/Sep2002, 28(6), 12-15.
- Meehan, M., B. Insko, M. Whitton and F. P. Brooks Jr. (2002). Physiological Measures of Presence in Stressful Virtual Environments. ACM Transactions on Graphics 21(3): 645-652. (Proceedings of ACM SIGGRAPH 2002, San Antonio, Texas).

**Pre-2000**

- Usoh, Martin, K. Arthur, M. Whitton, A. Steed, M. Slater, and F. Brooks, Walking>Virtual Walking>Flying, in Virtual Environments. Proceedings of SIGGRAPH'99 (Los Angeles, CA, August 11-13), Computer Graphics Annual Conference Series, 1999, pp. 359-364.
- Aliaga, D., J. Cohen, A. Wilson, E. Baker, H. Zhang, C. Erikson, K. Hoff, T. Hudson, W. Stuerzlinger<sup>o</sup>, R. Bastos, M. Whitton, F. Brooks, D. Manocha, (1999). MMR: An Interactive Massive Model Rendering System Using Geometric And Image-Based Acceleration. Proceedings of the 1999 ACM Symposium on Interactive 3D Graphics (Atlanta, GA, April 26-28, 1999), pp. 199-206, 237.

- Garrett, William, H. Fuchs, M. Whitton, A. State. Real-Time Incremental Visualization of Dynamic Ultrasound Volumes Using Parallel BSP Trees. Proceedings of IEEE Visualization '96 (San Francisco, California, October 1996), pp.235-240, 490.
- State, A., Livingston, M. A., Hirota, G., Garrett, W. F., Whitton, M. C., Fuchs, H. and Pisano, E. D. Technologies for Augmented-Reality Systems: Realizing Ultrasound-Guided Needle Biopsies. Proceedings of ACM SIGGRAPH '96 (New Orleans, LA, August 4-9), Computer Graphics Annual Conference Series 1996, 439-446.
- Whitton, Mary C. (1975). Same-Sex and Cross-Sex Reliability and Concurrent Validity of the Strong-Campbell Interest Inventory. Journal of Counseling Psychology, 22(3), 204-209 (May 1975). APA..

## **PUBLICATIONS: OTHER PAPERS**

### **2006 to present**

- Whitton, M. C. (2009). User Evaluation during Development: Lessons Learned from Ten Years of Studies of Virtual Environments. Computer Science Technical Report TR09-015. (Prepared for SIGGRAPH 2009 Course: The Whys, How tos, and Pitfalls of User Studies.)
- Jerald, J, A. Fuller, A. Lastra, M. Whitton, L. Kohli, F. Brooks. (2007) Latency Compensation by Horizontal Scanline Selection for Head-Mounted Displays. In Proceedings of SPIE Vol 6490 Stereoscopic Displays and Virtual Reality Systems. (San Jose, CA, January 2007)
- Muller, P., J. Cohn, D. Schmorow, R. Stripling, K. Stanney, L., Milham, M. Whitton, J. Folkes (2006). The Fidelity Matrix: Mapping System Fidelity to Training Outcome. Proceedings of IITSEC 2006, (Orlando, FL December 2006).
- Brooks, Jr., F. P., J. Cannon-Bowers, H. Fuchs, L. McMillan, M. Whitton (2006). Virtual Environment Training for Dismounted Teams—Technical Challenges. Paper presented at Human Factors & Medicine Panel Workshop on Virtual Media for Military Applications, U.S. Military Academy, West Point, NY, June 13-15, 2006. (Invited)

### **2000-2005**

- Brooks, F., Cannon-Bowers, J., Fuchs, H., McMillan, L., Whitton, M., (2005). A New VE Challenge: Immersive Experiences for Team Training. Proceedings of HCI International 2005, v.9 (Las Vegas, July 2005). CD-ROM. (Invited)
- Whitton, M., B. Lok, B. Insko, F. Brooks, Integrating Real and Virtual Objects in Virtual Environments. Proceedings of HCI International 2005, v.9 (Las Vegas, July 2005). CD-ROM. (Invited)
- Kohli, L., Whitton, M. (2005). The Haptic Hand: Providing User Interface Feedback with the Non-Dominant Hand in Virtual Environments. Proceedings of Graphics Interface 2005 (Victoria, BC, May 2005), 1-8.
- Lok, Benjamin, Samir Naik, Mary Whitton, and Frederick Brooks (2004). Experiences in Extemporaneous Incorporation of Real Objects in Immersive Virtual Environments. in Beyond Glove and Wand Based Interaction Workshop, IEEE Virtual Reality 2004, Chicago, IL.
- Whitton, Mary C., Making Virtual Environments Compelling. Communications of the ACM, 46 (7), 40-47. (Invited)
- Mortensen, J., V. Vinayagamoorthy, M. Slater, A. Steed, B. Lok, M. Whitton, Collaboration in Tele-Immersive Environments. Proceedings of the Eighth Eurographics Workshop on Virtual Reality (2002), 93-101, ACM-The Eurographics Association.
- Razzaque, S., D. Swapp, M. Slater, M. C. Whitton and A. Steed (2002). Redirected Walking in Place. Proceedings of Eighth Eurographics Workshop on Virtual Environments (2002), 123-130, ACM - The Eurographics Association.
- Razzaque, S. Z. Kohn, M. Whitton (2001). Redirected Walking, Proceedings of Eurographics 2001, pp. 289-294. September 2001, Manchester, UK.
- Hudson, Thomas, D. Sonnenwald, K. Maglaughlin, M. Whitton, R. Bergquist (2000). Enabling Distributed Collaborative Science [refereed video-paper]. Video Proceedings of ACM Conference on Computer-Supported Collaborative Work 2000.

## Pre-2000

- Arthur, K, T. Preston, R. Taylor, F. Brooks, M. Whitton, W. Wright (1998). Designing and Building the PIT: a Head-Tracker Stereo Workspace for Two Users. 2nd International Immersive Projection Technology Workshop, Workshop CD-ROM, Carolina Cruz-Neira, ed., Iowa State University, Ames, Iowa, May 11-12, 1998.
- Fuchs, H., State, A., Livingston, M., Garrett, W., Hirota, G., Whitton, M. & Pisano, E. (1996). Virtual Environments Technology to Aid Needle Biopsies of the Breast: An example of real-time data fusion. Medicine meets virtual reality: Health care in the information age (Medicine Meets Virtual Reality (4th : 1996 : San Diego, Calif.), Sieberg, H., Weghorst, S., & K. Morgan (Eds.). IOS Press and Ohmsha.
- Whitton, Mary C., Visualization Accelerators. NCGA '89 Conference Proceedings (Philadelphia, April 17-20), vol.1, 331-339.
- Whitton, Mary C., Accelerating Interactive Applications. NCGA Computer Graphics '87 (Philadelphia, March 22-26), Conference Proceedings, vol. 3, 439-448.

## **PUBLICATIONS: ABSTRACTS . POSTERS. AND VIDEO PAPER**

- Burns, E., S. Razzaque, M. Whitton, F. Brooks (2007), MACBETH: The avatar which I see before me and its movement toward my hand (Poster Abstract). Proceedings of IEEE Virtual Reality 2007, 295-296 (Charlotte, NC, March 2007). IEEE Computer Society.
- Cohn, Joseph (LT), M. Whitton, W. Becker, F. Brooks, Information Presentation and Control Method Impact Performance on a Complex Virtual Locomotion Task (Poster). Human Factors and Ergonomics Society's 48th Annual Meeting (New Orleans, Louisiana, September 20-24, 2004).
- Sonnenwald, D.H., Maglaughlin, K.L., & Whitton, M.C. (2001). Using innovation diffusion theory to guide collaboration technology evaluation: Work in progress (Video Paper). IEEE 10th International Workshop on Enabling Technologies: Infrastructure for Collaborative Enterprises.

## **PRESENTATIONS**

- Whitton, M.C. (2009). Course Presentation: User Evaluation during Development, Course: The Whys, How tos, and Pitfalls of User Studies. ACM SIGGRAPH 2009. (New Orleans, August 3, 2009.)
- Whitton, M.C. (2009). Panel Organizer and Chair. Latency in Virtual Environments. IEEE Virtual Reality 2009 (Lafayette, LO March 2009). IEEE Computer Society.
- Whitton, M.C. (2008). The Illusion of Reality. Keynote Presentation at 7th Theory and Practice of Computer Graphics, Eurographics Association, UK Chapter (Manchester, UK; June 9, 2008).
- Whitton, M.C. (2008) Illusion, Reality, & Presence: Ruminations on the State of Virtual Reality. Presentation at UK SIGGRAPH Chapter Meeting (Manchester, UK; June 11, 2008).
- Whitton, M.C. (2008) Whitton, M.C. (2008). Panelist. Getting around in VR, B. Mohler (Organizer), IEEE Virtual Reality 2008, (Reno, NV, March 2008).
- Whitton, M.C. (2006). Panelist. How Do We Solve Human Factors for VR and AR Applications? Mark Livingston (Organizer). IEEE Virtual Reality 2006, (Alexandria, VA, March 2006).
- Whitton, M. C. (2002). Course Presenter: Physiological Approaches to Presence Assessment, ACM SIGGRAPH 2002. (Los Angeles, August, 2002).